

*Experiments to be made relating to Land-Carriage,
propofed by the learned Sr. William Petty Kt.*

THe water carriage of goods round about the Globe of the Earth, is but about double to the price of Land Carriage from *Ch ſtr* to *London* of the like goods.

Land Carriage by Carts and Wagons is cheaper then on horſes backs, and this cheaper then by men.

Wherefore carriage by Carts and Wagons ought well to underſtood and conſidered.

Land Carriage by draught, is by Wheele-barrows, Straddles, Carts of 2 wheels, Sleds, Wagons of 4 wheels, by Carrs on 2 high wheels, Drays on 2 ſmall wheels, *Irish Carrs* of 2 very ſmall wheels. The preſent work is to deſign experiments whereby to know the difference and advantages of all the ſaid ſeveral Carriages upon ſeveral wayes and grounds. To which purpoſe it is offer'd that the following experiments be made, *viz.*

E X P E R I M E N T S.

1. The difference between what a Man or Horſe can Carry, and what they can draw up at a Pulley.
2. The difference what a Man can endure to Carry one, two, three, four, five, fix hours, &c.
3. The difference of Speed that a Man can make under ſeveral burthens, within the ſame time.
4. Let the difference between the weight of a common *Irish Carr*, and the burthen which a horſe can draw upon it be examin'd, as alſo the like difference between a Cart for 5 horſes and its burthen, and between a Coach with a Coach-man with its burthen, and between the Pack ſaddle and of a Pack-horſe and its burthen.
5. Let the difference between a Horſes draught upon a ſmall Carr, and a 5 Horſes draught upon a great Cart and 4 wheel'd Wagon be examined.
6. Let the ſame differences of horſes draught at ſeveral diſtances from the carriage, and upon wheels of ſeveral heights, be examined.
7. Let the juſt weight of wheels be determined, to make them of the ſame ſtrength though of different diameters, and at what diſtance wheels of ſeveral heights ſhould ſtand from each other.

8. What

8. What the difference is between Iron and Wooden Axell trees, and of the Grief and affriction made by them, within their boxes of their Naves.

9. What is the true reason of the dishing out of wheels.

10. What is the true proportion of Timber which ought to be in the Nave, Spokes, or Rim of any wheele, in order to lightness strength and uprightness.

11. What is the difference between the high and low hanging of Coaches, the distance of the Standards, and of the difference between the hinder and the fore-wheels.

Other EXPERIMENTS.

Take a Parallelipeppidon of wood, suppose 4 Inches square at the ends, and 8 Inches long with the weight thereof, and try as followeth *viz.*

1. How much weight less then that of it self, applyed to convenient pullyes, will draw the said Log over a smooth level Table, of an assigned length, in an assign'd time, and what weight will draw the same faster or slower, in any assigned proportion.

2. What difference there will be in the Affriction of the whole side of the said Log upon the plain Table, and mounting the same upon 2 small Keels of a quarter of an Inch thick.

3. What the difference between the last mentioned mounture, and setting the same upon 4 thick Segments of Circles, so as to touch the Table but at 4 points, in imitation of dragging wheels, and whether it be material that the said Segments should be of greater or lesser Circles

4. What the difference between the said mounture upon 4 such Segments, or upon 4 wheels moving distinctly upon their Axell trees, as also between 2 wheels or one Segment like a Cart, or 1 wheele and 2 segments like a wheele-barrow.

5. What the difference in draught will be in the aforementioned draughts upon the various inclinations of the said Table, upwards and downwards, or upon the said Table covered with a blanket equally extended, or with a paste of Clay of a certain thickness.

6. What the difference between the tenderest motion upon wheels and the draught thorow water.